



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/738,042	12/15/2000	William N. Partlo	2000-0067-1	2316

7590

03/14/2003

John R. Ross
Cymer, Inc. - Legal Department MS/1-2A
16750 Via Del Campo Court
San Diego, CA 92127-1712

EXAMINER

DIAZ, JOSE R

ART UNIT

PAPER NUMBER

2815

DATE MAILED: 03/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/738,042

Applicant(s)

PARTLO ET AL.

Examiner

José R Diaz

Art Unit

2815

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

- The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

- Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The terms "horizontal" and "vertical" render the claim indefinite since Applicant fails to provide a reference point. In order words, the first and second directions are horizontal and vertical, respectively, with respect to what. In addition, the term "vertical" is used by Applicant to mean "an acute angle or an angle of less than 90°" (see For example Figure 4B of the Specification, wherein Applicant discloses a "vertical" beam between the prism 60 and mirror 14). One of ordinary skill in the art recognizes that an angle of less than 90° is comprised of both "vertical" and "horizontal" components or "directions." Therefore, using the same rationale provided by Applicant, the term "vertical" as described in Figure 4B could also be used to describe a "horizontal" direction. As such, in absent of any clarification the term "vertical" will be interpreted as a horizontal direction.

Claim Rejections - 35 USC § 102

- The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 2815

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

➤ Claims 1-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Das et al. (US Pat. No. 5,978,409).

Regarding claims 1 and 6, Das et al. teach a laser device comprising: a first direction beam expander (26, 30), a second direction beam expander (32) and a grating (36) (see Fig. 2 and "Background of the Invention").

Regarding claims 2 and 7, Das et al. teach that the first direction is horizontal (26, 30) and the second direction is vertical (32) (see Fig. 2).

Regarding claims 3-4 and 8-9, Das et al. teach that the first direction beam expander is comprised of three prisms (26, 28, 30) and the second direction beam expander is comprised of a single prism (32) (see Fig. 2).

Regarding claims 5 and 10, Das et al. further teach a tuning mirror (34) (see Fig. 2).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been

Art Unit: 2815

obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

➤ Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over ^{*Applicant's Specification*} Das et al. (US Pat. No. 5,978,409) in view of P. Zorabedian, "Characteristics of a Grating-External-Cavity Semiconductor Laser Containing Intracavity Prism Beam Expanders, IEEE, Journal of Lightwave Technology, vol. 10, No. 3, March 1992.

Regarding claims 1-2 and 6-7, Applicant acknowledges a well-known laser device (see Fig. 2) comprising: a laser chamber (3), first and second direction beam expanders (8, 10, 12) and a grating (36) (see Fig. 2 and "Background of the Invention"). However, Applicant states that the prior art fails to describe a "vertical" direction beam expander. P. Zorabedian teaches that is well known in the art to vary the number of prisms as well as their refractive indexes, angles of incidence and apex angles (see page 331, col. 1, lines 8-9). Therefore, it would

Art Unit: 2815

have been obvious to one having ordinary skill in the art at the same time the invention was made to modify Applicant's Specification to include a "vertical" direction beam expander. The ordinary artisan would have been motivated to modify Applicant's Specification in the manner described above for at least the purpose of providing narrow linewidth.

Regarding claims 3-4 and 8-9, Applicant acknowledges the use of three direction beam expanders (see Fig. 4b). However, Applicant states that the prior art fail to describe that the first direction beam expander is comprised of three prisms and the second direction beam expander is comprised of a single prism. However, P. Zorabedian teaches that is well known in the art to vary the number of prisms as well as their refractive indexes, angles of incidence and apex angles (see page 331, col. 1, lines 8-9). Therefore, it would have been obvious to one having ordinary skill in the art at the same time the invention was made to modify Applicant's Specification to include first direction beam expander comprises of three prisms and the second direction beam expander comprises of a single prism. The ordinary artisan would have been motivated to modify Applicant's Specification in the manner described above for at least the purpose of providing narrow linewidth.

Regarding claims 5 and 10, Applicant acknowledges the use of a tuning mirror (14) (see Fig. 2).

Art Unit: 2815

Response to Arguments

➤ Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

➤ The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following references are related to the present invention: Brown et al. (US 2002/0127497 A1), Fomenkov et al. (US Pat. Nos. 6,493,374 B1 and 6,094,448), Cybulski et al. (US 2002/0006147 A1), Ershov (US Pat. No. 5,970,082), Erie et al. (US Pat. No. 6,212,217 B1), and Algots et al. (US Pat. No. 6,192,064 B1).

➤ Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Art Unit: 2815

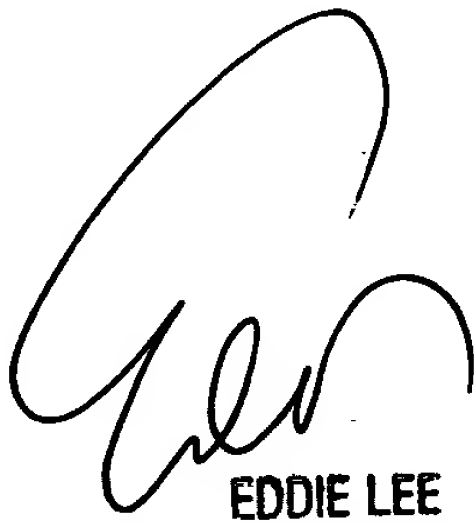
Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to José R Díaz whose telephone number is (703) 308-6078. The examiner can normally be reached on 9:00-5:00 Monday, Tuesday, Thursday and Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on (703) 308-1690. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 746-3891 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

JRD
March 10, 2003



EDDIE LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800